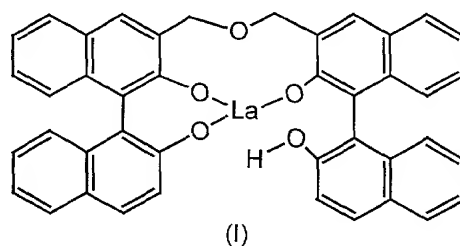


What is claimed is:

1. A catalyst composition comprising a lanthanum-linked BINOL complex selected from the list consisting of;
 - (i) an unsubstituted lanthanum-linked BINOL complex of general formula (I), and
 - (ii) a substituted lanthanum-linked BINOL complex of general formula (I), wherein at least one of the hydrogen atoms on at least one of the aromatic rings of the complex is substituted with a substituting group.



2. A catalyst according to claim 1 wherein the lanthanum-linked BINOL complex is unsubstituted (R,R)-lanthanum-linked-BINOL.
3. A catalyst according to claim 1 wherein the substituting group is selected from the list comprising an alkyl group, an aryl group, a halide, a nitro group, an amino group and a sulphonyl group.
4. The use of a lanthanum-linked BINOL complex of general formula (I) as a catalyst for a Michael addition reaction.
5. A use according to claim 4 wherein the Michael addition reaction provides a Michael adduct of a β -dicarbonyl compound and an enone selected from the list consisting of a cyclic enone and an acyclic enone.
6. A method of performing a Michael addition reaction comprising reacting a compound that forms an enolate ion and a α,β -unsaturated carbonyl compound in the presence of a catalyst composition comprising a lanthanum-linked BINOL complex of general formula (I).
7. A method according to claim 6 wherein the compound that forms an enolate ion is a β -dicarbonyl compound and the α,β -unsaturated carbonyl compound is an enone selected from the list consisting of a cyclic enone and an acyclic enone.
8. A method according to claim 6 wherein the lanthanum-linked BINOL complex is unsubstituted (R,R)-lanthanum-linked-BINOL.

9. A method according to claim 6 wherein the lanthanum linked BINOL complex is recovered from the completed reaction by a process comprising the steps of;
- (i) precipitation of the lanthanum-linked BINOL complex from the reaction mixture by addition of a suitable solvent,
 - (ii) removal of the Michael adduct-containing supernatant solution by filtration or decantation, and
 - (iii) drying the lanthanum-linked-BINOL complex.

10. A method according to claim 9 wherein the suitable solvent is methanol.